

FEDERAL RESERVE BANK OF NEW YORK

- a transceiving unit for receiving and transmitting data; and

2. The wireless communication apparatus of claim 1, comprising a memory for storing the amount of slot usage of the wireless communication apparatus.

4. The wireless communication apparatus of claim 1, wherein the
the largest amount of slot usage.

- 10

6. The wireless communication apparatus of claim 1, wherein the controller is connected to a host via a communication interface.

7. A wireless communication system comprising:

a master device for analyzing a destination of a packet , detecting an amount of slot usage according to the destination, selecting a temporary master device according to the amount of slot usage, and transferring a role of master to the selected temporary master device; and

at least one slave device connected with the master device, if selected as the temporary master device, the slave device taking the role of master from the master device and acting as the temporary master device for a predetermined period of time.

8. The wireless communication system of claim 7, wherein the master device selects the temporary master device that corresponds to a destination having the largest amount of slot usage.

9. The wireless communication system of claim 7, wherein the master device continuously maintains the role of master device for the predetermined period of time if the master device is the device that has the largest amount of slot usage.

10. A control method of a wireless communication system having a master device and at least one slave device connected with the master device, the method comprising the steps of:

(a) the master device, analyzing a packet received for a period of time and detecting an amount of slot usage according to a destination; and

(b) the master device, selecting a temporary master device according to the amount of slot usage and transferring a role of master to the selected temporary master device.

11. The control method of claim 10, wherein the step (b) comprises selecting the temporary master device that corresponds to a destination having the largest amount of slot usage.

12. The control method of claim 10, wherein the master device continuously maintains the role of master device for a certain period of time if the master device is the device that has the largest amount of slot usage in the step (b).

13. A control method of a wireless communication system having a master device and at least one slave device connected with the master device, the method including:

(a) having the master device operable to analyze a packet received for a period of time and detecting an amount of slot usage according to a destination; and

(b) the master device selecting a temporary master device according to the amount of slot usage and transferring a role of master to the selected temporary master device.

14. The control method of claim 13, wherein (b) comprises selecting the temporary master device that corresponds to a destination having the largest amount of slot usage.

15. The control method of claim 13, wherein the master device is operable to continuously maintain the role of master for said period of time if the master device is the device that has the largest amount of slot usage in (b).

16. A wireless communication method for selecting a temporary master device, the wireless communication method comprising the steps of:

(a) initializing a number of slot usage according to slave devices and a switching period;

(b) receiving a packet from the slave devices connected to a Piconet, and increasing the number of slot usage according to a destination recorded in the packet;

(c) determining whether or not a switching period has passed as wireless communication apparatuses mutually send/receive a plurality of packets;

(d) selecting a certain device which has the largest number of slot usage and making the certain device a temporary master device; and

(e) determining whether or not the certain device, selected to be the temporary master device, is a current master.

17. The wireless communication method of claim 16, wherein if it is determined that the certain device selected to be the temporary master device is a current master, steps (a) through (e) are repeated.

18. The wireless communication method of claim 16, wherein if it is determined that the certain device selected to be the temporary master device is not a current master, transferring a role of master from a master device to the temporary master device through master-slave switching.